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Stig Enemark

Towards spatially-enabled government

Stig Enemark is President of FIG. He is Professor in Land Management and Problem Based Learning at Aalborg University, Denmark, where he was Head of School of Surveying and Planning 1991-2005. He has been substantially involved in the Danish Association of Chartered Surveyors (DdL) being President 2003-2006, and he chaired the FIG Commission 2 on Professional Education 1994-1998. He is an honorary member of both DdL and FIG.

Place matters! Everything happens somewhere. If we can understand more about the nature of “place” where things happen, and the impact on the people and assets on that location, we can plan better, manage risk better, and use our resources better.

All countries have to deal with the management of land. They have to deal with the four functions of land tenure, land value, land use, and land development in some way or another. A country’s capacity may be advanced and combine all the activities in one conceptual framework supported by sophisticated ICT models. More likely, however, capacity will involve very fragmented and basically analogue approaches.

Land Administration Systems are the basis for conceptualising rights, restrictions and responsibilities related to people, policies and places. Property rights are normally concerned with ownership and tenure whereas restrictions usually control use and activities on land. Responsibilities relate more to a social, ethical commitment or attitude to environmental sustainability and good husbandry.

Land Administration Systems is also the key component of spatially-enabled government is achieved when governments use “place” as the key means of organising their activities in addition to information, and when location and spatial information are available to citizens and businesses to encourage creativity.

Integrated land administration systems should also serve as a basis for climate change adaptation as well as prevention and management natural disasters. Climate change increases the risks of climate-related disasters, which cause the loss of lives and livelihoods, and weaken the resilience of vulnerable ecosystems and societies.

Land governance

Arguably sound land governance is the key to achieve sustainable development and to support the global agenda set by adoption of the Millennium Development Goals (MDGs). Land governance is about the policies, processes and institutions by which land, property and natural resources are managed. This includes decisions on access to land, land rights, land use, and land development. Land governance is basically about determining and implementing sustainable land policies.

Land governance and management covers all activities associated with the management of land and natural resources that are required to fulfil political and social objectives and achieve sustainable development. Land management requires inter-disciplinary skills that include technical, natural, and social sciences. The operational component of the land management concept is the range of land administration functions that include the areas of land tenure (securing and transferring rights in land and natural resources); land value (valuation and taxation of land and properties); land use (planning and control of the use of land and natural resources); and land development (implementing utilities, infrastructure, construction planning, and schemes for renewal and change of existing land use).

No nation can build land management institutions without thinking about integration of activities, policies, and approaches. Technology opportunities provide additional motivation. Careful management of land related activities on the ground are crucial for delivery of sustainability.

Land administration systems, in principle, reflect the social relationship between people and land

recognised by any particular jurisdiction or state. Such a system is not just a GIS. On the other hand, Land Administration Systems are not an end in itself but facilitate the implementation of the land policies within the context of a wider national land management framework.

Spatially-enabled government

A government service is regarded as spatially enabled when governments use place as the key means of organising their activities in addition to information, and when the service delivery process incorporates seamless access to all information that a user of the service might need to make spatial or location-specific decisions associated with the service.

New distribution concepts such as Google Earth provide user-friendly information in a very accessible way. We should consider the option where spatial data from such concepts are merged with built and natural environment data. This unleashes the power of both technologies in relation to emergency response, taxation assessment, environmental monitoring and conservation, economic planning and assessment, social services planning, infrastructure planning etc.

Spatial enablement offers opportunities for visualisation, scalability, and user functionalities. This is related to institutional challenges with a range of stakeholder interests. This is related to institutional challenges with a range of stakeholder interests. This includes ministries/departments such as Justice; Taxation; Planning; Environment; Transport; Agriculture; Housing; Interior (regional and local authorities); Utilities; and civil society interests such as businesses and citizens. Creating awareness of the benefits of developing a shared platform for Integrated Land Information Management takes time and patience. The mapping/cadastral agencies have a key role to play in this regard.

Climate change and natural disasters

Sustainable land administration systems provide clear identification of the individual land parcels and land rights attached to these parcels. This information on the people to land relationship is crucial and plays a key role in adaptation to climate change and in prevention and management of natural disasters. No matter the inequity between the developed and developing world in terms of emissions and climate consequences, there is a need to develop relevant means and measures for adaptation to climate change both in both the rich and the poorer countries.

Adaptation to climate change and disaster risk management, by their very nature, challenge professionals in the fields of land use, land management, land reform, land tenure and land administration to incorporate climate change issues into their land policies, land policy instruments and facilitating land tools.

Key policy issues to be addressed should relate to protecting the citizens by avoiding concentration of population in vulnerable areas and improving resilience of existing ecosystems to cope with the impact of future climate change.

Building sustainable and spatially-enabled land administration systems will enable control of the access to land as well as the control of the use of land. The systems should identify all prone areas subject to sea-level rise, drought, flooding, fires, and potential natural disasters. The systems should also include relevant measures and regulations to prevent the impact on predicted climate change as well as natural disasters and provide preparedness for managing any disaster events.

The land management perspective and the operational component of land administration systems therefore need high-level political support and recognition.